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EXAMINER
HE, JIALONG

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
12/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/550,481	AUBAUER, ROLAND
Office Action Summary	Examiner	Art Unit	
	JIALONG HE	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 September 2008</u>.

2a)☒ This action is FINAL.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>10-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>10-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/29/2008, 10/03/2008</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Examiner Change

1.   It should be note the examiner change due to previous examiner no longer

available.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 09/29/2008 and 10/03/2008

are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information

disclosure statement is being considered by the examiner except for strike though items

which fails to comply with (37 CFR 1.98(a)(3)) which requires concise explanation of

non-English literatures.

Response to Amendment

2.   Applicant's amendment filed on 09/25/2008 has been entered. Claims 10-18

have been amended. No claims has been added or canceled. Claims 10-18 are still

pending in this application, with claims 10 and 16 being independent.

        The applicant has amended specification to address minor informalities. The

objection to the specification is withdrawn.

        The applicant has amended claims to address minor informalities. The objection

to the claims for informalities pointed in the previous Office Action is withdrawn.

Response to Arguments

3.   Applicant's arguments have been fully considered but they are not persuasive for the following reasons.

Regarding independent claim 1, the applicant argues that Hon (US Pat. 5,852,801) does not disclose that the user is provided with an opportunity to immediately assign a voice utterance to a new <u>command</u> (**Remarks, page 5**) and Hon is silent if a command can be assigned to a non-recognized word; commands are not mentioned as being part of the lexicon; it is not correct to interpret the meaning of "along with predetermined attributes that the user provides" to refer to commands; both Gammel and Hon fail to teach that the user is provided with an opportunity to immediately assign a voice utterance to a new <u>command</u> (**Remarks, page 6**).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). MPEP (2142) states that with regard to rejections under 35 U.S.C. 103, the examiner must provide **evidence which as a whole** shows that the legal determination sought to be proved (i.e., the reference teachings establish a prima facie case of obviousness) is more probable than not.

Gammel discloses a system and method for associate a voice utterance to a

phone number for speed dialing (**assigning a voice utterance to a command**). The

system allows a user to add, delete and review speed dialing list using speech

commands (**fig. 3**). The user can add a new voice speed dialing command by speaking

"add" command. The system needs to learn how you say the name. There will be a long

pause after you say the name the first time, and then the system will ask you to repeat

the name between one and four times (**col. 6, lines 30-35**). If the new voice dialing

command is not too short or not to similar to an existing command, the new voice

dialing command is added to the system (**col. 6, lines 45-65**). During enrollment

(adding new dialing commands), a "garbage model" is used to detect if a new voice

command to be added has already been used (i.e., too similar to an existing one). If the

new voice utterance matches the garbage model, it is assumed that the voice utterance

is not in the list (**col. 5, lines 55-65**). Gammel teaches a voice utterances are trained

and commands are assigned to the trained utterances and provides the user an

opportunity to assign an utterance to a new command. Therefore, Gammel discloses all

limitations of claim 1 except for **upon non-recognition** of a voice utterance,

immediately assign the voice utterance to a new command.

Hon discloses a speech recognition method and apparatus which allows a user

to immediately add an unrecognized word to lexicon and modifying language model to

improve recognition rate (**Hon, fig. 3 and fig. 4**). Hon teaches a feature when an

utterance is not recognized an **immediately action** is taken to improve the recognition performance. Hon is not relied upon for assigning a voice utterance to a new command. Gammel already teaches assigning a voice utterance to a speed dialing command.

The feature, when an utterance is not recognized an immediately action is taken to improve performance, taught by Hon, is combined with Gammel's teaching which allows a user to assign a voice utterance to a speed dialing command. One having ordinary skill in the art would have been motivated to make such a modification because immediately assign an unrecognized utterance to a new command improves performance.

Therefore, the combined teachings of Gammel and Hon teach the limitation: "providing the user, upon non-recognition of a voice utterance and via the speech recognition system, an opportunity to immediately assign the voice utterance to a new command" recited in claim 1.

The applicant asserts dependent claims are allowable because the dependent claims include the above underlined limitation recited in the independent claim 1. For the same reason explained above, the argument is not persuasive.

Claim Objections

4.   Claim 17 is objected to because of the following informalities:

Claim 17, line 3 recties "<u>which is connected to the database for **reading** the</u>

<u>voice utterance **into** the database</u>".

It is suggested to replace the term **"which"** with a subject noun. The examiner

understands the term "which" refers to "the voice recording device" not "a memory".

It appears the term "**reading ... into**" is a misspelling of the term "**writing ...**

into".

5.   Appropriate correction is required.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gammel et al. (US 5,832,429), hereinafter referred to as Gammel, in view of Hon et al.

(US 5,852,801), hereinafter referred to as Hon.

With respect to independent **claim 10**, Gammel teaches a `speaker-dependent speech recognition method recognizing speech with a speech recognition system` *(Fig. 1; col. 1, lines 6-8; col. 2, lines 1-20, the invention relates to speech recognition and a speech recognition database in a system comprising speaker dependent templates for recognition)*, `the method comprising:`

- `providing that voice utterances of a user are trained and commands are assigned to the trained voice utterances` *(col. 2, lines 12-20, telephone system contains speaker dependent templates for entry names and corresponding phone numbers for speed dial)*;

but although Gammel teaches a method to `assign the voice utterance to a new command` *(Figs. 4, 5, 7-9; col. 3, lines 33-45; col. 5, lines 12-23, new speed dial names are enrolled in a speed dial list)*, Gammel does not teach that it is done upon `non-recognition of a voice utterance and via the speech recognition system.` However, the examiner contends that this concept was well known in the art, as taught by Hon.

In the same field of endeavor of speech recognition, Hon teaches a method for speech recognition in which if a word is not recognized *(Fig. 2, element 115; col. 7, 28-35; col. 8, lines 28-29)*, the user is prompted to invoke a new word acquisition method *(Fig. 2, element 100, Fig. 3, element 169; col. 7, lines 36-48; col. 8, lines 50-60)*, and the unrecognized word may be added to the lexicon *(Fig. 2, element 117, Fig. 4, element 187; col. 7, lines 49-51; col. 9, lines 36-38)*, along with other user-provided attributes *(col. 9, lines 36-38)*. It is noted that a command is also a word with associated attributes, and that the recognized word may be a command *(col. 6, lines 33-36)*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the speech recognition method of Gammel with the automatically

invoked step of adding a new voice utterance, as taught by Hon, in order to increase ease of use

for users by not requiring prior knowledge of words not in the lexicon and providing a user

interface for entering a word into the lexicon *(Hon, col. 1, line 57-col. 2, line 15)*.

With respect to **claim 11**, Gammel in view of Hon teaches everything claimed, as applied

above (see claim 10); in addition, Gammel does not but Hon teaches a `speaker-`

`dependent speech recognition method as claimed in claim 10,`

`wherein, upon the non-recognition of the voice utterance by the`

`speech recognition system` *(Fig. 3, col. 8, lines 28-29, the word cannot be*

determined), `the user may one of repeat the voice utterance and`

`assign a new command to the voice utterance` *(Fig. 3, col. 8, lines 31-32, the*

user repeats the word or phrase (157)).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the speech recognition method of Gammel with the step of allowing the user

to repeat an unrecognized utterance, as taught by Hon, in order to increase the probability of

correct recognition in the event that the user misspeaks or is otherwise inconsistent in speaking.

With respect to **claim 12**, Gammel in view of Hon teaches everything claimed, as applied

above (see claim 10); but Gammel in view of Hon does not explicitly teach a `speaker-`

`dependent speech recognition method as claimed in claim 10,`

`wherein if no command has yet been assigned to a voice utterance,`

the speech recognition system, after having been activated,

offers the training of a new command. However, Gammel does teach that the

telephone system stores speaker dependent templates, which are used for recognition for

commands *(col. 1, lines 38-39; col. 2, lines 16-18 and 31-33)*, as well as a method for adding

templates to the database *(Figs. 4, 5, 7-9; col. 3, lines 33-45; col. 5, lines 12-23)*. Since the

method of Gammel cannot be implemented without enrolled voice commands, the templates

must have been created prior to using the method. Therefore, it would have been obvious to one

of ordinary skill in the art at the time the invention to modify the method of Gammel to allow the

user to create the templates if they have not already been created, because this enables the speech

recognizer to be more useful to the user.

      With respect to **claim 13**, Gammel in view of Hon teaches everything claimed, as applied

above (see claim 10); in addition, Gammel does not but Hon teaches a speaker-

dependent speech recognition method as claimed in claim 10,

wherein upon the non-recognition of a voice utterance *(Fig. 3, col. 8,*

lines 12-18, the desired word is not the most likely recognized word) for a command

already trained by the speech recognition system *(Fig. 3, col. 8, lines 20-*

28, the desired word may be found on an N-best list of alternatives; Fig. 4, lines 15-19, the

unrecognized word may already be in the lexicon), the user may select the

command and assign the voice utterance to the selected command

(Fig. 3, col. 8, lines 20-28, the unrecognized word is selected from the N-best list; Fig. 4, col. 9,

lines 15-27, the speech model is modified to increase the probability of recognition in the

future).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the speech recognition method of Gammel with the step of allowing the user

to correct an unrecognized utterance, as taught by Hon, in order to increase the future accuracy

of the system by modifying it to a particular speaker's utterances *(Hon, col. 9, lines 15-27)*.

With respect to **claim 14**, Gammel in view of Hon teaches everything claimed, as applied

above (see claim 10); in addition, Gammel does not but Hon does teach a `speaker-`

`dependent speech recognition method as claimed in claim 10,`

`wherein for recognition of a voice utterance, a voice pattern is`

`generated which is assigned to the voice utterance` *(col. 5, lines 46-65,*

utterance is divided and converted into observed vectors to represent the utterance data).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the method of Gammel with the vector creation step of Hon, because it

would improve accuracy by fine-tuning the recognizer to a particular user's speech.

With respect to **claim 15**, Gammel in view of Hon teaches everything claimed, as applied

above (see claim 10); in addition, Gammel further teaches a `speaker-dependent`

`speech recognition method as claimed in claim 10, wherein before`

`a command is assigned to a voice utterance, a check is carried`

`out to determine whether the voice utterance is similar to`

`previously stored voice utterances` *(Fig. 5, col. 6, lines 38-49, a check is made*

to determine if the word is already on the list or close to a word that is on the list).

With respect to independent **claim 16**, Gammel teaches a `speech recognition`
`system for a speaker-dependent recognition of voice` *(Fig. 1; col. 1,*
lines 6-8; col. 2, lines 1-20, the invention relates to a speech recognition database in a system
comprising speaker dependent templates for recognition), `comprising:`

- `a voice recording device for recording a voice utterance of`
  `a user of the speech recognition system` *(Fig. 1, col. 2, lines 6-8,*
  system comprises a recognition and record circuit (14));

- `a search engine for accessing a database which contains an`
  `assignment between voice utterances and commands in order to`
  `find a command assigned to the voice utterance` *(Fig. 1, col. 2,*
  lines 29-33; col. 2, lines 12-20, processor (12) with comparator and memory (15)
  compares user's utterance to speaker dependent templates for entry names and
  corresponding phone numbers for speed dial); `and`

- `a conversion device for converting the command found due to`
  `the voice utterance` *(col. 2, lines 48-55, telephone system recognizes*
  command phrases and proceeds according to the requested command, for
  example automatically dialing numbers)

but although Gammel teaches `assign[ing] the voice utterance to a new`
`command` *(Figs. 4, 5, 7-9; col. 3, lines 33-45; col. 5, lines 12-23, new speed dial names*
are enrolled in a speed dial list), Gammel does not teach that it is done upon `non-`
`recognition of the voice utterance.`

However, the examiner contends that this concept was well known in the art, as taught by Hon.

In the same field of endeavor of speech recognition, Hon teaches a system for speech recognition in which if a word is not recognized *(Fig. 2, element 115; col. 7, 28-35; col. 8, lines 28-29)*, the user is prompted to invoke a new word acquisition method *(Fig. 2, element 100, Fig. 3, element 169; col. 7, lines 36-48; col. 8, lines 50-60)*, and the unrecognized word may be added to the lexicon *(Fig. 2, element 117, Fig. 4, element 187; col. 7, lines 49-51; col. 9, lines 36-38)*, along with other user-provided attributes *(col. 9, lines 36-38)*. It is noted that a command is also a word with associated attributes, and that the recognized word may be a command *(col. 6, lines 33-36)*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the speech recognition system of Gammel with the automatically invoked step of adding a new voice utterance, as taught by Hon, in order to increase ease of use for users by not requiring prior knowledge of words not in the lexicon and providing a user interface for entering a word into the lexicon *(Hon, col. 1, line 57-col. 2, line 15)*.

With respect to **claim 17**, Gammel in view of Hon teaches everything claimed, as applied above (see claim 16); in addition, Gammel further teaches a `speech recognition system as claimed in claim 16, wherein the voice recording device` *(Fig. 1, col. 2, lines 6-8, system comprises a recognition and record circuit (14))* `is connected to a memory in which the voice utterance is temporarily stored` *(Fig. 1, col. 2, lines 29-33; col. 2, lines 12-20, processor (12) with comparator and memory (15))* `and which is connected to the database for reading the voice utterance into the database` *(Fig. 1, col. 2, lines 29-33, encoded templates are in the memory (15))*.

With respect to **claim 18**, Gammel in view of Hon teaches everything claimed, as applied above (see claim 16); in addition, Gammel does not but Hon does teach a `speech recognition system as claimed in claim 16, further comprising a feature extraction device for generating a voice pattern from the voice utterance` *(Fig. 1A, 1C, & 2; col. 5, lines 46-65, signal processor (111) divides the digitized utterance into frames and creates a vector for each slice of the vector)*, `the feature extraction device being arranged between the voice recording device and the memory` *(Fig. 1A, sound sampling device (11), memory (3), and digital signal processor (6) are all connected via a bus (1))*, `with the voice pattern replacing the voice utterance` *(col. 5, lines 46-65; col. 6, lines 7-18; vectors represent and summarize the utterance, and are used in the comparison)* .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Gammel with the vector creation step of Hon, because it would improve accuracy by fine-tuning the recognizer to a particular user's speech.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

* Vanbuskirk; Ronald E. et al. (US 6327566 B1) - method and apparatus for correcting misinterpreted voice commands in a speech recognition system.

* Gortz; Udo et al. (US 6477498 B1) - method for assignment of a selectable option to an actuating means.

         * Lin; Lin et al. (US 6873951 B1) - speech recognition system and method permitting user customization.

9.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

      A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to JIALONG HE whose telephone number is (571)270-5359. The examiner can normally be reached on Monday-Thursday, 7:00 - 4:30, Alt Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JH/

/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2626